DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: EATON POND

Town: PITTSFIELD

Maximum depth (m): 5.2

County: Merrimack

River Basin: Merrimack

Latitude: 43°16'12" N

Longitude: 71°16'50" W

Shore configuration: 1.17

Elevation (ft): 744

Shore length (m): 1100

Watershed area (ha): 259.0

Watershed ponded: 0.0

Lake type: 7.00

Maximum depth (m): 5.2

Mean depth (m): 1.2

Relative depth: 1.7

Shore configuration: 1.17

Areal water load (m/yr): 20.62

Pretention coeff: 0.47

BIOLOGICAL:	9 January 1995	28 June 1994
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 85%	PERIDINIUM 60%
#2	MELOSIRA 5%	ASTERIONELLA 15%
#3		SPHAEROCYSTIS 15%
PHYTOPLANKTON ABUNDANCE (units/mL)		260
CHLOROPHYLL-A (µg/L)		15.50
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 56%	KELLICOTTIA 68%
#2	KELLICOTTIA 26%	KERATELLA 8%
#3		NAUPLIUS LARVA 7%
ROTIFERS/LITER	119	610
MICROCRUSTACEA/LITER	10	114
ZOOPLANKTON ABUNDANCE (#/L)	140	790
VASCULAR PLANT ABUNDANCE		Abundant
SECCHI DISK TRANSPARENCY (m)		1.6
BOTTOM DISSOLVED OXYGEN (mg/L)	4.9	0.2
BACTERIA (E. coli, #/100 ml) #1		
#2		
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 2.3

Hypolimnion volume (m³): None

Anoxic volume (m³)

6500

CHEMICAL: Lake: EATON POND Town: PITTSFIELD					
	9 January 1995		28 June 1994		
DEPTH (m)	1.5	3.0	1.5		3.5
pH (units)	5.1	5.4	5.8		5.5
A.N.C. (Alkalinity)	0.8	1.3	1.2		2.1
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		0.05
TOTAL KJELDAHL NITROGEN	0.42	0.59	0.67		0.50
TOTAL PHOSPHORUS	0.013	0.015	0.025		0.026
CONDUCTIVITY (µmhos/cm)	90.2	90.8	87.8		82.9
APPARENT COLOR (cpu)	65	65	70		88
MAGNESIUM			0.68		
CALCIUM			1.7		
SODIUM			13.1		
POTASSIUM			0.43		
CHLORIDE	22	22	20		18
SULFATE	4	4	4		4
TN : TP	32	39	27		21
CALCITE SATURATION INDEX			. 5.2		

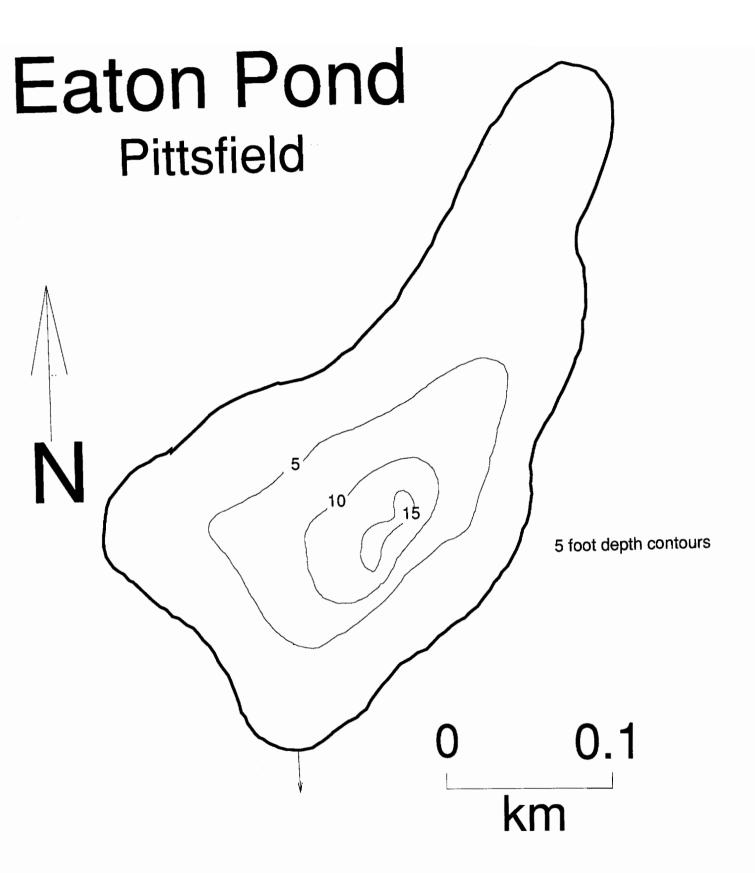
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1994

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	5	3	12	Eutro.

COMMENTS:

- 1. No public access; difficult walk-in from Rt. 107 through wetlands.
- 2. No cottages on the pond -- pretty much an open-water wetland.
- 3. Sodium and chloride levels suggest de-icing salt drainage from Rt. 107.
- 4. Dominant genera of wholewater phytoplankton were <u>Sphaerocystis</u> (40%) and <u>Cryptomonas</u> (20%).



FIELD DATA SHEET

LAKE: EATON POND

TOWN: PITTSFIELD

DATE: 06/28/94

WEATHER: OVERCAST & WINDY; MID 70'S

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	22.0	7.4	84 %
	1.0	22.0	7.2	82 %
	2.0	20.0	3.4	37 %
	3.0	14.1	0.2	2 %
	4.0	12.0	0.2	2 %
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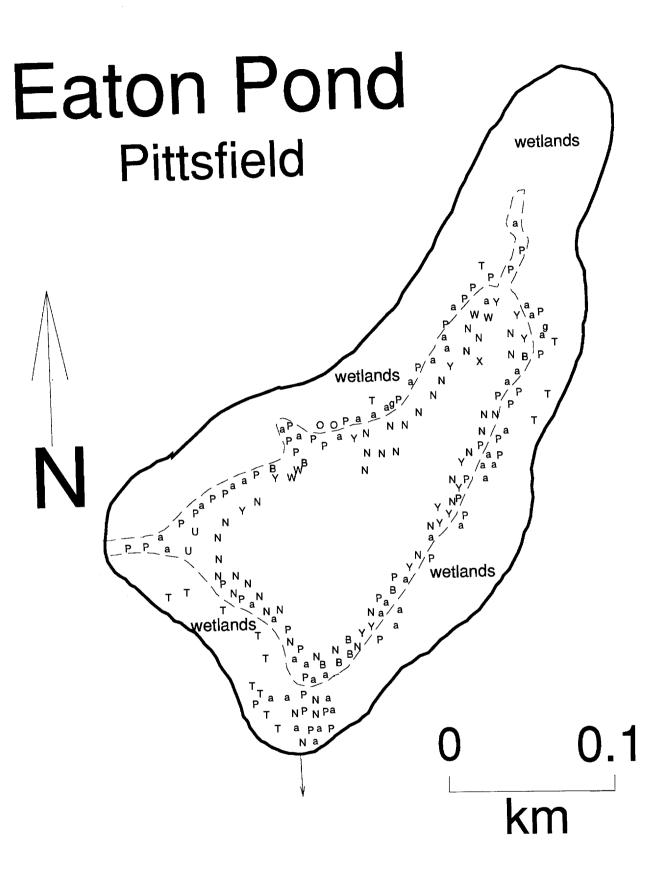
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SECCHI DISK (m): 1.6 COMMENTS:

BOTTOM DEPTH (m): 4.2

TIME: 1200

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: EATON POND	TOWN: PITTSFIELD	DATE: 06/28/94	
Vov	PLANT	NAME	ABUNDANCE	
Key	GENERIC	COMMON	ABONDANCE	
P	Pontederia cordata	Pickerelweed	Abundant	
N	Nymphaea	White water lily	Abundant	
Y	Nuphar	Yellow water lily	Common	
В	Brasenia schreberi	Water shield	Scattered	
g	Myrica gale	Sweet gale	Abundant	
С	Chamaedaphne calyculata	Leatherleaf	Abundant	
0	Cephalanthus occidentalis	Buttonbush	Scattered	
а	Peltandra virginica	Arrow arum	Abundant	
W	Potamogeton	Pondweed	Sparse	
T	Typha	Cattail	Common	
Х		Sterile thread-like leaf	Sparse	
U	Utricularia	Bladderwort	Abundant	
		:		

OVERALL ABUNDANCE: Abundant

GENERAL OBSERVATIONS:

- 1. Entire pond surrounded by wetlands; primarily leatherleaf, sweet gale, grasses, cattails and swamp maples. Open water area was much less than the pond outline (dashed line depicts open water area).
- 2. Bladderwort was abundant around the entire shoreline; it was too abundant to accurately depict on the map.
- 3. Beavers were active in the area.